ABSTRACT OF DISCLOSURE

An electro-optical backlighting panel construction for use in portable computer-based systems having direct and projection viewing modes of operation. In the illustrative embodiments of the present invention, the electro-optical backlighting panel is integrated with a LCD display panel, a micropolarization panel, and a touch-screen writing panel to provide several different types of portable computer-based systems including, for example, a portable notebook computer, a computer-driven image display device, and a portable pen-computing device. In general, each of these computer-based systems are capable of selectively displaying color video images on an actively driven display surface, or projecting such video images onto a wall surface or projection screen. These computer-based systems can be easily reconfigured for projection viewing without any sort of physical modification to the LCD display panel assembly. If desired, the these computer-based systems can be used to directly view "spatially-multiplexed" images of 3-D objects or imagery during the direct viewing mode, and when desired these spatially-multiplexed images can be projected onto a wall surface or projection screen during the projection viewing mode. When the spatially-multiplexed images are viewed through electrically-passive polarized glasses, the 3-D object is perceived with stereoscopic depth sensation in either mode of viewing. A portable light projection accessory device is provided for use with the portable computer-based systems of the present invention. In the illustrative embodiments, the portable light projection device has first and second housing portions

that are interconnected by a foldable structure that permits the first and second housing portions to be selectively reconfigured for simple trouble-free use during the projection viewing mode of operation, and for compact storage during the direct viewing mode of operation.